

Fostering Knowledge Transfer through High-Performance HRM Practices: The Mediating Role of Affective Commitment

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Abstract

Due to the importance of knowledge transfer in enhancing competitive advantage of firms, organizations are increasingly developing strategies for effective knowledge transfer. This study examined the relationship between high-performance HRM and knowledge transfer as well as the mediating effect of affective commitment on this relationship. The study is based on data from 136 managers drawn from six banks in Nigeria. Through the use of regression analysis and mediation analysis using PROCESS macros, we report a positive relationship between high-performance HRM and knowledge transfer. We also found a positive relationship between affective commitment and knowledge transfer. In turn, affective commitment mediated the relationship between high-performance HRM and knowledge transfer. The study therefore concluded that high-performance HRM contributes to knowledge transfer directly and indirectly through affective commitment.

Keywords: High-performance HRM, tacit knowledge, explicit knowledge, affective commitment, knowledge transfer, Nigeria.

Introduction

Effective knowledge management has been identified as a key source of competitive advantage to firms (Argote & Ingram, 2000; Birasnav, 2014). Thus, the acquisition and subsequent dissemination of firm-specific knowledge is imperative especially when firms are faced with uncertainty and competitive pressures (Liu, Li, Shi, & Liu, 2017). In every organizational setting, knowledge is unevenly distributed such that whilst some may have access to relevant or even excess knowledge, other members or units may not have access to the required stock of knowledge (Birasnav,

2014; Tuan, 2012). In order for organizations to function smoothly as a coherent entity, knowledge transfer becomes necessary to ensure that the stock of knowledge circulates within the organization (Argote & Ingram, 2000; Patriotta, Castellano, & Wright, 2013). Hence, it is incumbent on managers to develop strategies for effective knowledge transfer.

Despite the acknowledgement by researchers and practitioners of the numerous benefits of knowledge transfer to organizational success, knowledge transfer is by no means automatic (Argote & Fahrenkopf, 2016; Argote & Ingram, 2000). As a result, there is usually a disparity in the amount and quality of knowledge transferred from one unit to the other. This entails that whilst some knowledge transfer initiatives may be successful, others may prove unsuccessful (Argote & Fahrenkopf, 2016). The question then becomes: how do organizations successfully transfer relevant knowledge across organizational different units? This question has been a source of debate among researchers and practitioners for decades (Argote & Ingram, 2000; Nilsen & Anelli, 2015; Nonaka, 1994; Patriotta et al., 2013).

Indeed, human resource management (HRM) has been identified as a key determinant of effective knowledge transfer (Cabrera, Collins, & Salgado, 2006; Cabrera & Cabrera, 2005; Luu Trong Tuan, 2011). Nevertheless, there is now a general consensus that traditional HRM practices are not sufficient for achieving knowledge transfer and of course competitive advantage (Camelo-Ordaz, García-Cruz, Sousa-Ginel, & Valle-Cabrera, 2011; Minbaeva, 2005). In order to succeed, organizations are now deploying coherent sets of HRM practices that enhance the knowledge, skills and abilities of employees; that motivate employees to perform for the interest of the organization; and that provide employees with the opportunity to participate in decision making (Appelbaum, Bailey, Berg, & Kalleberg, 2000; Becker & Huselid, 1998; Mostafa & Gould-Williams, 2015). These HRM practices which are strategic in nature and emphasize treating employees as assets rather than costs to the organization fall under the banner of high-performance HRM (Huselid & Becker, 2011).

The aim of this study therefore is to examine the relationship between high-performance HRM practices and knowledge transfer as well as to examine the mediating role of affective commitment on this relationship. Affective commitment is considered important as a mediating variable in the relationship between high-performance HRM and knowledge transfer because it is often argued that the aim of high-performance HRM is to engender the commitment of employees towards the goals of the organization which will in turn result in improved organizational outcomes (Appelbaum et al., 2000).

This research is conducted within the context of Nigeria by utilizing data collected from managers in the banking sector. Indeed, knowledge management generally is an under researched topic within the context of Nigeria and it is the aim this study to bridge the research gap. Moreover, by focusing on managers, we hope to gain insights on knowledge transfer by focusing on those who are responsible for managing organizations and motivating employees towards knowledge transfer.

Organizational Knowledge and Knowledge Transfer

Knowledge is an intangible and yet very crucial resource for which organizations compete rather tangible resources (Tuan, 2012). Academically, knowledge is a complex concept because it has often been used interchangeably with related concepts such as data and information. Nevertheless, the concepts of data, information and knowledge are distinguishable. Data represent raw facts about the internal and external environment of the organization that can be potentially useful whereas information is viewed as data that has already been processed and influential for organizational decision making (Alavi & Leidner, 2001). Thus, knowledge is viewed as the final product of processing and understanding information in a given context through human cognition, reasoning and learning (Alavi & Leidner, 2001; Campos & Sanchez, 2003). Although many definitions of knowledge exist in the scholarly literature, a comprehensive definition of knowledge is provided by Davenport and Prusak (1998 p.5) as:

A fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, practices, and norms.

The above definition of knowledge is all-encompassing since it places emphasis on both the individual and organizational aspects of knowledge (Tuan, 2012). This implies that while organizational knowledge is embedded in knowledge repositories such standards and routines, a vital part of organizational knowledge resides in the individuals that make up the organization (Birasnav, 2014; Tuan, 2012). Thus, as Birasnav (2014) notes, in order to achieve competitive advantage, organizations have to develop appropriate strategies to tap the knowledge that is resident in the brains of individuals in order to create organizational knowledge.

Even though different dimensions of knowledge have discussed in the literature (see Campos & Sanchez, 2003), there is a general consensus that knowledge can be broadly classified into two dimensions known as

explicit and tacit knowledge (Campos & Sanchez, 2003; Liu, Li, Shi, & Liu, 2017; Nilsen & Anelli, 2015; Nonaka, 1994; Patriotta, Castellano, & Wright, 2013). Explicit knowledge is the dimension of knowledge that can be captured, codified, documented, stored, distributed and verbalised (Birasnav, 2014; Patriotta et al., 2013). On the other hand, tacit knowledge is personal, intuitive, difficult to express and underutilized (Campos & Sanchez, 2003; Nonaka, 1994). These two dimensions of knowledge, although discernible, are not different types of knowledge but should be viewed as components of knowledge since they are mutually dependent and form an integral part of knowing. Moreover, it has been suggested that explicit knowledge takes root from tacit knowledge while tacit knowledge is a precondition for understanding explicit knowledge (Nonaka, 1994). This suggests that whereas some organizational knowledge can be easily expressed, a critical dimension of organizational knowledge is ingrained in people and is difficult to explicate. Thus, according to Birasnav (2014) organizational knowledge is created when both explicit and tacit knowledge are converted into a kind of firm-specific knowledge that is valuable, difficult to imitate and not easily transferable by other organizations.

It is imperative for organizations to devise strategies to effectively manage knowledge due to its importance to organizational outcomes. Knowledge management is defined by Maier (2005 p.433) as: “the management function responsible for regular selection, implementation and evaluation of knowledge strategies that aim at creating an environment to support work with knowledge internal and external to the organization in order to improve organizational performance”. Typically, knowledge management involves activities such as “knowledge acquisition, documentation, transfer, creation and application” (Birasnav, 2014 p.1623). Through the activity of knowledge acquisition, organizations are able to search and obtain the relevant explicit and tacit knowledge from the environment. Documentation entails the ability of organizations to store and retrieve organizational knowledge using appropriate hardware and software. Meanwhile, knowledge transfer process allows employees to share the knowledge acquired with each other. On the other hand, knowledge creation, as earlier noted, facilitates the conversion of tacit and explicit knowledge into firm-specific knowledge that is useful to the organization while knowledge application enables employees to utilize the acquired explicit and tacit knowledge to solve organizational problems for enhanced performance (cf. Birasnav, 2014).

Although each of the activities of knowledge management is important in achieving competitive advantage, the focus of this study is on the knowledge management activity known as knowledge transfer. This is due to the fact that knowledge transfer is a vital component of knowledge

management and has been described as a measure of the effectiveness and efficiency of organizations (Tuan, 2012). Of course, when knowledge is transferred, not only is its value enhanced, there is also the potential for additional knowledge to be created (Argote & Fahrenkopf, 2016; Tuan, 2012). Knowledge transfer is the process by which organizations consciously move knowledge from one unit to the other in order to improve the stock of knowledge within the organization (Patriotta et al., 2013). There are fundamental questions that organizations need to answer in order to guide knowledge transfer activity. These are: what type of knowledge should be transferred? What is the best medium for transferring knowledge? And at what level should knowledge be transferred? (Tuan, 2012). As for the latter, Argote and Fahrenkopf (2016) opine that knowledge transfer can take place at both the individual and organizational level. At the individual level, they observe that individuals may draw from previous experience to perform a current task better while also noting that organizations may also learn from their previous experience and the experience of other organizations (cf. Argote & Fahrenkopf, 2016). Based on the foregoing, knowledge transfer may be described as the movement of explicit and tacit knowledge from one employee or from one organizational setting to the other (Nilsen & Anelli, 2015).

The importance of knowledge transfer is based on the premise that knowledge is unevenly distributed within any given organization such that while some members or units of the organization may readily access the knowledge they need, others may not have access to the desired stock of knowledge (Argote & Fahrenkopf, 2016; Argote & Ingram, 2000; Tuan, 2012). Therefore, in order to enhance the optimum performance of all organs of the organization, it is imperative for knowledge to be transferred across employees and units of the organization. Indeed, Argote and Ingram (2000) note that knowledge transfer becomes evident when there are changes in the stock of knowledge or performance of the recipient. Thus, in order for knowledge transfer to be considered successful, there has to be improvement in the performance of employees, units or the organization as a whole. Nevertheless, the effectiveness of knowledge transfer differs across organizations (Galbraith, 1990) due to the disparity in the amount and quality of knowledge transferred from one unit to the other (Argote & Fahrenkopf, 2016; Argote & Ingram, 2000). Hence, for knowledge transfer to generate optimum benefits, the transferred knowledge must be adequate and complete as well as being dependable (Maltz, 2000; Martinez-Noya, Garcia-Canal, & Guillen, 2013).

Researchers are interested in identifying the factors that foster knowledge transfer across organizational units. One of the main organizational factors that facilitate organizational knowledge transfer is the

firm's absorptive capacity. The latter entails the ability of the firm to assimilate new knowledge (Argote & Ingram, 2000; Osabutey & Jin, 2016). This implies that if the firm or indeed the subunit of the firm is unable to absorb new stock of knowledge, it will be impossible to transfer knowledge since knowledge transfer depends on the ability of the knowledge recipient to utilize the transferred knowledge for innovation and consequently, organizational performance (Birasnav, 2014; Osabutey & Jin, 2016). In their comprehensive model of knowledge transfer, Argote and Ingram (2000) opined profoundly that organizational knowledge is embedded in three elements namely, people, technology and routines. Nevertheless, they further observe that a substantial amount of knowledge, especially tacit knowledge is ingrained in the people that make up the organization. Thus, Argote and Ingram (2000 p.164) conclude that "people play the most critical role in the success of knowledge transfer". This suggests that the success of knowledge transfer will depend on the way organizations motivate organizational members to engage in knowledge transfer activity. This can be enhanced by developing the skills of employees through the effective deployment high-performance HRM practices (Minbaeva, 2005; Osabutey & Jin, 2016).

High-Performance HRM, Affective Commitment and Knowledge Transfer

High-performance HRM refers to a bundle of interrelated HRM practices that together improve organizational performance (Katou & Budhwar, 2014). These sets of practices have been found to improve performance more than individual practices. This means that high-performance HRM practices are capable of affecting organizational outcomes positively due to their synergistic effects (Becker & Huselid, 1998; Guest & Conway, 2011). Nevertheless, the dilemma confronting researchers is in fathoming what should constitute an ideal bundle of high-performance HRM practices. As a result, different practices have been included in different studies on high-performance HRM (Mostafa & Gould-Williams, 2015). However, the most common practices used in previous studies include: staffing, training and development, pay, development appraisals, career growth opportunities, job security and employee involvement (Ang, Bartram, McNeil, Leggat, & Stanton, 2013; Appelbaum et al., 2000; Huselid, 1995; Kehoe & Wright, 2013; Mostafa & Gould-Williams, 2015). In conformity with previous studies, these practices are considered in this study and just like other studies on high-performance HRM, the practices are considered as a bundle rather than as individual practices.

Research evidence suggests that when staffing practices are aimed at hiring candidates that share the values of the organization, such candidates when employed are bound to engage in knowledge transfer for the benefit of the organization (Cabrera & Cabrera, 2005; Camelo-Ordaz, García-Cruz, Sousa-Ginel, & Valle-Cabrera, 2011). Similarly, training and development as well as development appraisals equip employees with skills and the knowledge required to complete organizational tasks and will in turn result to knowledge transfer ability (Caligiuri, 2014; Camelo-Ordaz et al., 2011; Minbaeva, 2005). Moreover, pay, career growth opportunities and job security motivate employees to transfer knowledge especially when knowledge transfer becomes a criterion for assessing such rewards (Cabrera, Collins, & Salgado, 2006; Cabrera & Cabrera, 2005). In the same vein, employee involvement presents opportunities to workers to contribute to workplace decisions. Knowledge is therefore transferred in the course of participating in decision making (Cabrera & Cabrera, 2005; Camelo-Ordaz et al., 2011). Based on the foregoing and in line with other previous studies, we hypothesize thus:

Hypothesis 1: There will be a positive relationship between high-performance HRM practices and knowledge transfer.

Affective commitment is the emotional attachment employees have towards their organization (Meyer & Allen, 1991). Such attachment is unconditional and allows the affectively committed employee to go beyond his normal obligations to contribute towards the success of the organization (Meyer & Maltin, 2010; Nongo & Ikyanyon, 2012). Given that knowledge transfer has potential benefits to the organization in achieving competitive advantage, managers or employees who are affectively committed to their organization are bound to transfer knowledge to other recipients or units in the organization (Camelo-Ordaz et al., 2011; Hislop, 2003). Indeed, previous studies have found a positive association between affective commitment and knowledge sharing (Camelo-Ordaz et al., 2011). This leads to the following hypothesis:

Hypothesis 2: There will be a positive relationship between affective commitment and knowledge transfer.

The relationship between high-performance HRM and knowledge transfer may not necessarily be a direct one and may be influenced through affective commitment. Research has shown a positive effect of high-performance HRM on affective commitment (Ang et al., 2013; Appelbaum et al., 2000; Kehoe & Wright, 2013; Mostafa & Gould-Williams, 2015). When organizations deploy employee-centred HRM practices such as the ones described in this study, theoretical evidence suggests that employees feel that the organization cares for their wellbeing. Based on social exchange relationships, this may result in the development of affective

commitment towards the organization (Kehoe & Wright, 2013). As earlier noted, affective commitment will in turn propel employees to transfer knowledge for the good of the organization (Camelo-Ordaz et al., 2011; Hislop, 2003). We therefore hypothesize as follows:

Hypothesis 3: The relationship between high-performance HRM practices and knowledge transfer will be mediated by affective commitment.

In the subsequent sections, the methods employed for conducting the research shall be discussed followed by data analysis and findings from the test of hypotheses presented above.

Methods

Participants

The participants of the study comprised of 200 managers drawn from six banks in Nigeria who voluntarily accepted to participate in the study. Data collection was done via self-completion questionnaire administered on the participants in their workplaces through research assistants recruited to assist in data collection. The questionnaire sought information on the background of the participants as well as requesting them to provide responses to the issues under investigation. Respondents were expected to tick the response that was applicable in each case. Each respondent was given at least one week to complete the questionnaire after which research assistants returned to pick up the completed questionnaires.

Measures

The measures for this study were knowledge transfer, high-performance HRM and affective commitment. The scale for knowledge transfer was adapted from (Minbaeva, 2005) wherein respondents were expected to rate the extent to which they transferred technological know-how, product and service design knowledge, marketing knowledge and organizational practices across different organizational units. Responses were based on Likert-type scale ranging from 1=very low transfer of knowledge and 5= substantial transfer of knowledge. To measure high-performance HRM, respondents were asked to select the option that best described the HRM practices provided in their organizations. The HRM practices included in the study were staffing, training, development appraisals, career growth opportunities, job security, pay and employee involvement. Responses ranged from 1=strongly disagree to 7=strongly agree. The questions on high-performance HRM were drawn from previous studies (Arthur, 1994; Kehoe & Wright, 2013; Mostafa & Gould-Williams, 2015). Affective commitment was measured based on the 6-item measure developed by Meyer, Allen and Smith (1993). Options ranged from 1=strongly disagree to 7=strongly agree.

Control variables

Control variables included in the study were sex, age, education, and managerial level. This was to ensure that the results obtained from statistical tests were not confounded by the control variables.

Response Rate and Characteristics of the Sample

Of the 200 questionnaires administered, 136 were completed and returned, representing a response rate of 68%. The sample characteristics presented in table 1 indicate that 59.6% of the respondents were male while 40.4% were female. In terms of age, majority of the respondents (52.9%) were 35-44years while most of them had a degree (64.0%). Finally, most of the respondents (36.0%) were low-level managers.

Table 1: Sample Characteristics

Variables	Frequency (%)
Sex	
Male	81 (59.6%)
Female	55 (40.4%)
Age	
25-35 years	38 (28.0%)
35-44 years	72 (52.9%)
45 years & Above	26 (19.1%)
Education	
Degree	87 (64.0%)
Postgraduate	49 (36.0%)
Management Level	
Low-Level Management	49(36.0%)
Middle-Level Management	58 (42.7%)
Top-Level Management	29 (21.3%)

N= 136

Results

As an initial step in the data analysis process, we performed a factor analysis to find out the factor loadings of items in each construct. Using principal axis factoring and direct oblmin as the extraction and rotation methods respectively, our factor analysis produced 3 underlying constructs that we intended to measure namely high-performance HRM, affective commitment and knowledge transfer. Our judgement was based on eigenvalues of greater than 1 and interpretation of the scree plot. Indeed, each factor loading was greater than the threshold of 0.30¹⁵. The Cronbach alpha for high-performance HRM was 0.78 while that of affective commitment and knowledge transfer were 0.82 and 0.71 respectively.

Results of correlations presented in table 2 indicate that the variables of interest in the research were correlated. High-performance HRM

¹⁵ Full results of factor analysis are available from the authors on request.

practices and knowledge transfer were correlated ($r= 0.45$, $p<0.01$). Similarly, there was correlation between High-performance HRM practices and affective commitment ($r=0.32$, $p<0.01$) while there was also significant correlation between affective commitment and knowledge transfer ($r=0.29$, $p<0.01$). In each case however, the magnitude of correlation did not suggest the existence of multicollinearity.

Table 2: Correlation Matrix

Variables	M	SD	1	2	3	4	5	6	7
1 Sex			1						
2 Age			-.07	1					
3 Education			-.09	.14	1				
4 Management Level			.08		.17*	1			
5 HPHRM	5.93	1.00		.35**			1		
6 Affective Commitment	6.11	.76	-.24**	.06	.02	-.13		1	
7 Knowledge Transfer	4.95	1.23	-.18*	.05	.01	-.12	.32**		1

Notes: N=136; *Correlation is significant at 0.05 (2-tailed); **Correlation significant at 0.01 (2-tailed);
M= Mean; SD= Standard Deviation.

In order to test hypothesis 1 and hypothesis 2, regression analyses were conducted with the control variables entered in the first model while the independent variables were entered in model 2 in each case (see table 3 and table 4).

Table 3: Regression Model showing the effect of Affective Commitment on Knowledge Transfer

Variables	Model 1		Model 2	
	β	SE	β	SE
Control Variables				
Sex	-.388	.216	-.154	.201
Age	.067	.166	-.012	.151
Education	.262	.223	.252	.203
Management Level	-.163	.153	-.054	.141
Independent Variables				
HPHRP			.528**	.099
Model Summary				
R^2	.047		.218	
Adjusted R^2	.018		.188	
ΔR^2	.047		.171**	
F for ΔR^2			28.455**	

N= 136; * $p<0.05$; ** $p<0.01$

Results of hypothesis 1 presented in table 3 indicate a significant relationship between high-performance HRM practices and knowledge transfer ($\beta = 0.528$, $SE = 0.099$, $\Delta R^2 = 0.171$, $p < 0.01$). Hypothesis 1 is therefore accepted. None of the control variables had significant effect on knowledge transfer.

Similarly, results of hypothesis 2 presented in table 4 indicate a significant relationship between affective commitment and knowledge transfer ($\beta = 0.461$, $SE = 0.134$, $\Delta R^2 = 0.079$, $p < 0.01$). Hypothesis 2 is therefore accepted. An analysis of the effect of the control variables indicate that only sex had a significant effect on knowledge transfer with female managers more likely to engage in knowledge transfer ($\beta = -0.443$, $SE = 0.208$, $p < 0.05$).

Table 4: Regression Model showing the effect of Affective Commitment on Knowledge Transfer

Variables	Model 1		Model 2	
	β	SE	β	SE
Control Variables				
Sex	-.388	.216	-.443*	.208
Age	.067	.166	.010	.160
Education	.262	.223	.238	.214
Management Level	-.163	.153	-.083	.149
Independent Variables				
Affective Commitment			.461**	.134
Model Summary				
R^2	.047		.126	
Adjusted R^2	.018		.093	
ΔR^2	.047		.079**	
F for ΔR^2			11.824	

N= 136; * $p < 0.05$; ** $p < 0.01$

To test hypothesis 3, the Hayes and Preacher approach of mediation analysis was used (Hayes & Preacher, 2010). This approach which is different from the Baron and Kenny approach (Baron & Kenny, 1986) entails the use of PROCESS macros to test for mediation. The criteria for mediation is that confidence intervals (CI) should not contain zero (Hayes, 2009). Conversely, if confidence intervals contain zero, there is no mediation.

Table 5: Result of Mediation Analysis

Variable	Indirect Effect	BOOT SE	BOOT LLCI	BOOT ULCI	% MEDIATION
Mediator: Affective Commitment	.069	.055	.001	.238	13%

N=136; Independent Variable= High-performance HRM; Dependent Variable: Knowledge Transfer

Result of mediation analysis presented in table 5 indicates that $CI = 0.001 - 0.238$ which means that affective commitment mediates the relationship between high-performance HRM practices and knowledge transfer. Results further indicate that the magnitude of mediation is 13%. Hypothesis 3 is therefore accepted.

Discussion and Conclusion

The effect of high-performance HRM on knowledge transfer was examined in this research. Further, the mediation effect of affective commitment on this relationship was examined. Findings suggest a positive effect of high-performance HRM practices on knowledge transfer. This finding conforms to findings from previous studies (Cabrera & Cabrera, 2005; Caligiuri, 2014; Camelo-Ordaz et al., 2011; Minbaeva, 2005). This means that high-performance HRM practices improve the knowledge, skills and abilities of organizational members. These practices further motivate employees towards the goals of the organization which may include knowledge transfer. Moreover, through the opportunity to participate in workplace decisions, organizational members are able to transfer the knowledge acquired to other members or units of the organization (Caligiuri, 2014; Minbaeva, 2005). Another finding from the research indicate a positive effect of affective commitment on knowledge transfer. Affectively committed workers have emotional attachment to the organization (Meyer & Allen, 1991; Meyer & Maltin, 2010; Nongo & Ikyanyon, 2012). Thus, they are willing to put in extra effort for the organization to succeed. This suggests that when affective commitment is high, managers are willing to transfer the knowledge they hold to other members or units for the overall good of the organization (Camelo-Ordaz et al., 2011; Hislop, 2003).

Moreover, results further indicate that affective commitment mediates the relationship between high-performance HRM and knowledge transfer. Indeed, our findings suggest that affective commitment accounts for 13% change in the relationship between high-performance HRM and knowledge transfer. This finding suggest that organizations will achieve knowledge transfer when high-performance HRM practices are able to engender the commitment of workers. In turn, affectively committed managers will transfer knowledge to other organizational members or units of the organization (Cabrera et al., 2006; Camelo-Ordaz et al., 2011; Hislop, 2003).

This study therefore concludes that high-performance HRM contributes to knowledge transfer directly and indirectly through affective commitment. It is therefore incumbent on HR managers to develop a coherent set of performance-enhancing practices that will engender the

affective commitment of managers and employees in order to foster knowledge transfer for achieving competitive advantage.

Whilst this study contributes to our knowledge of HRM and knowledge transfer, it is not without limitations. First, we focused on managers to the exclusion of street-level employees who are also important in organizational knowledge transfer. Future researchers can advance the research by focusing on employees. Second, the small nature of the sample size in this study calls for future researchers to replicate this study using larger sample sizes. Finally, as with any cross-sectional research, the issue of causality cannot be established. This provides an opportunity for researchers to conduct longitudinal studies in this area.

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